

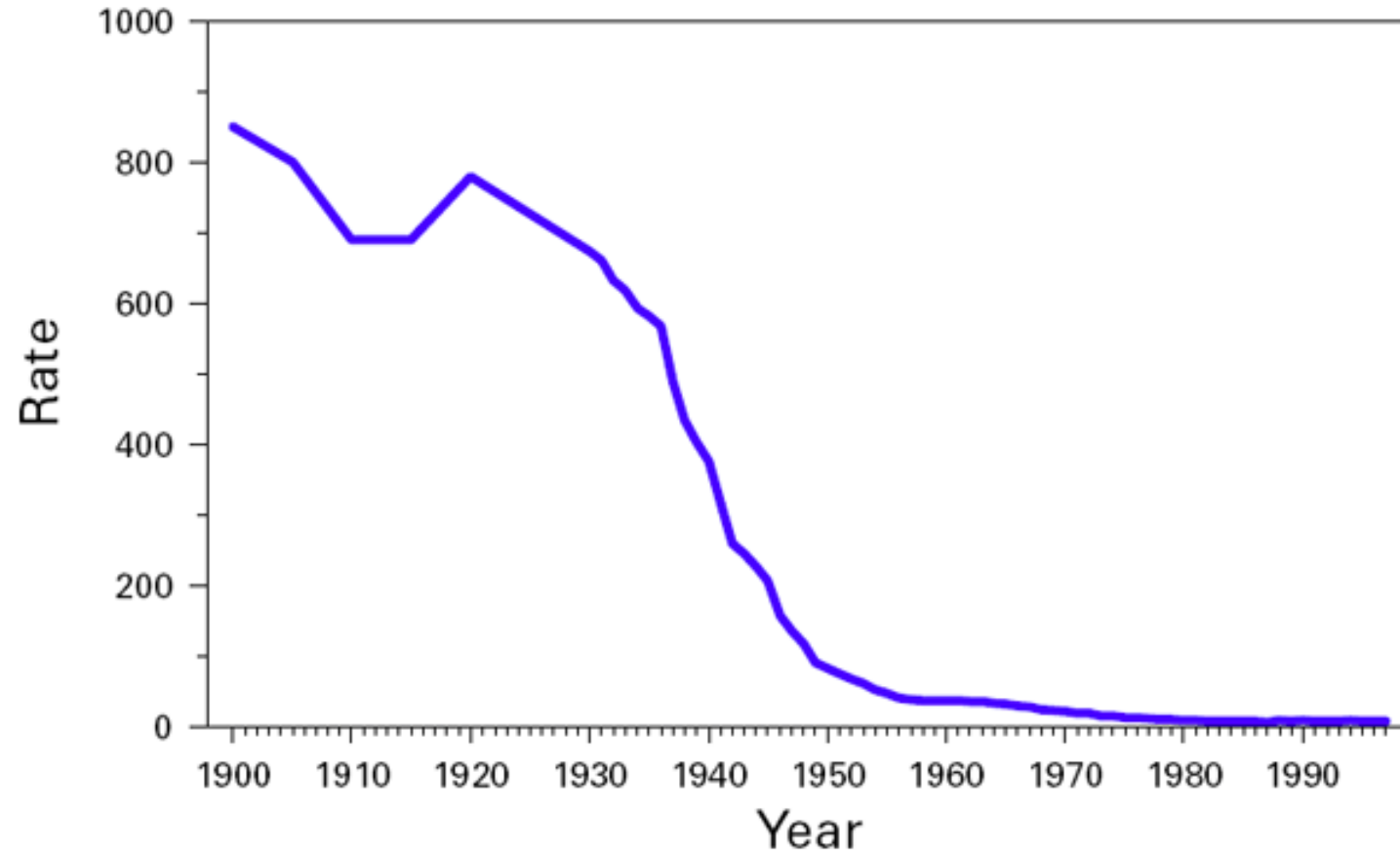
Maternal Mortality in Missouri: Charting a Path Forward

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Where We've Come From

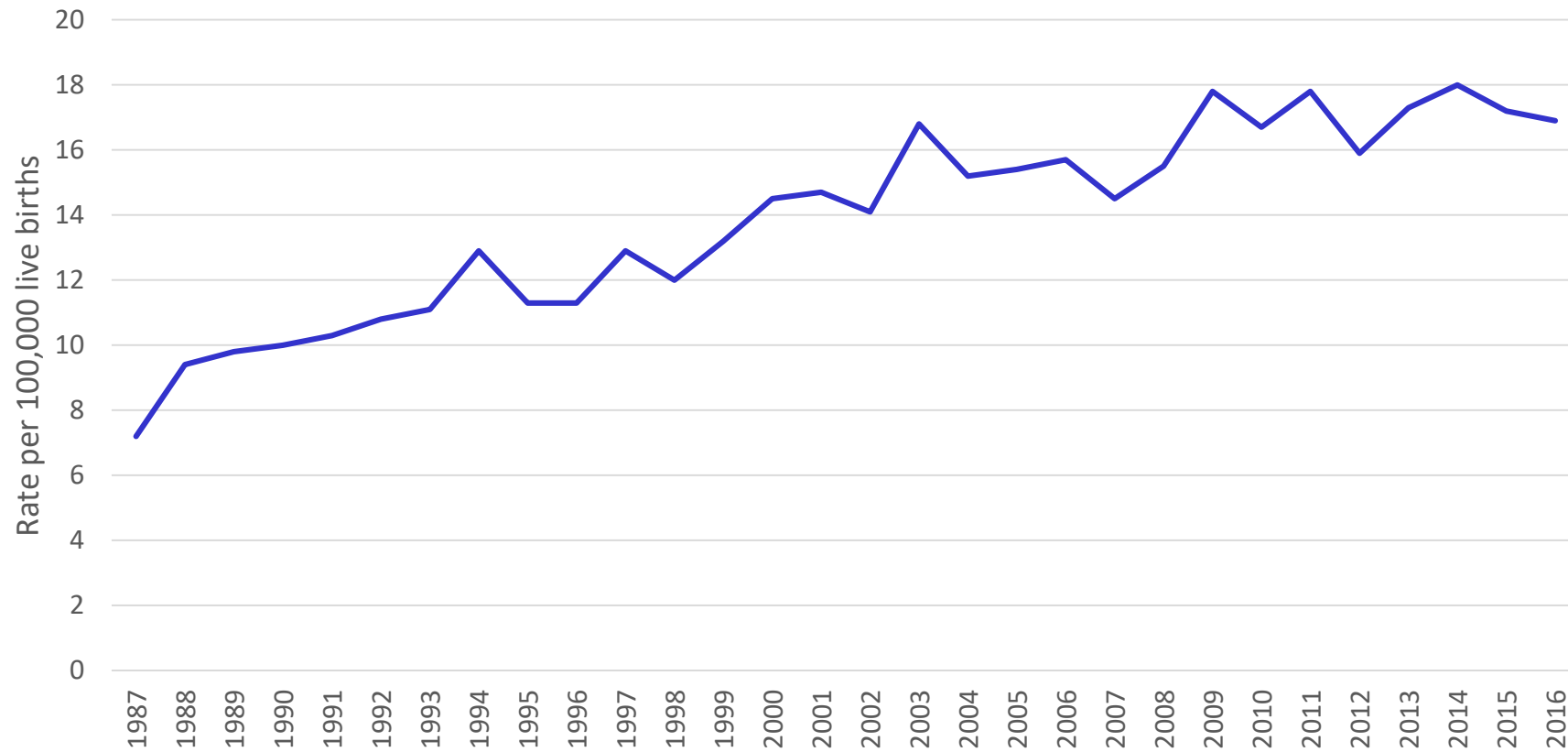
FIGURE 2. Maternal mortality rate,* by year — United States, 1900–1997



* Per 100,000 live births.

Maternal Mortality on the Rise

Pregnancy related mortality ratio:
United States, 1997-2016



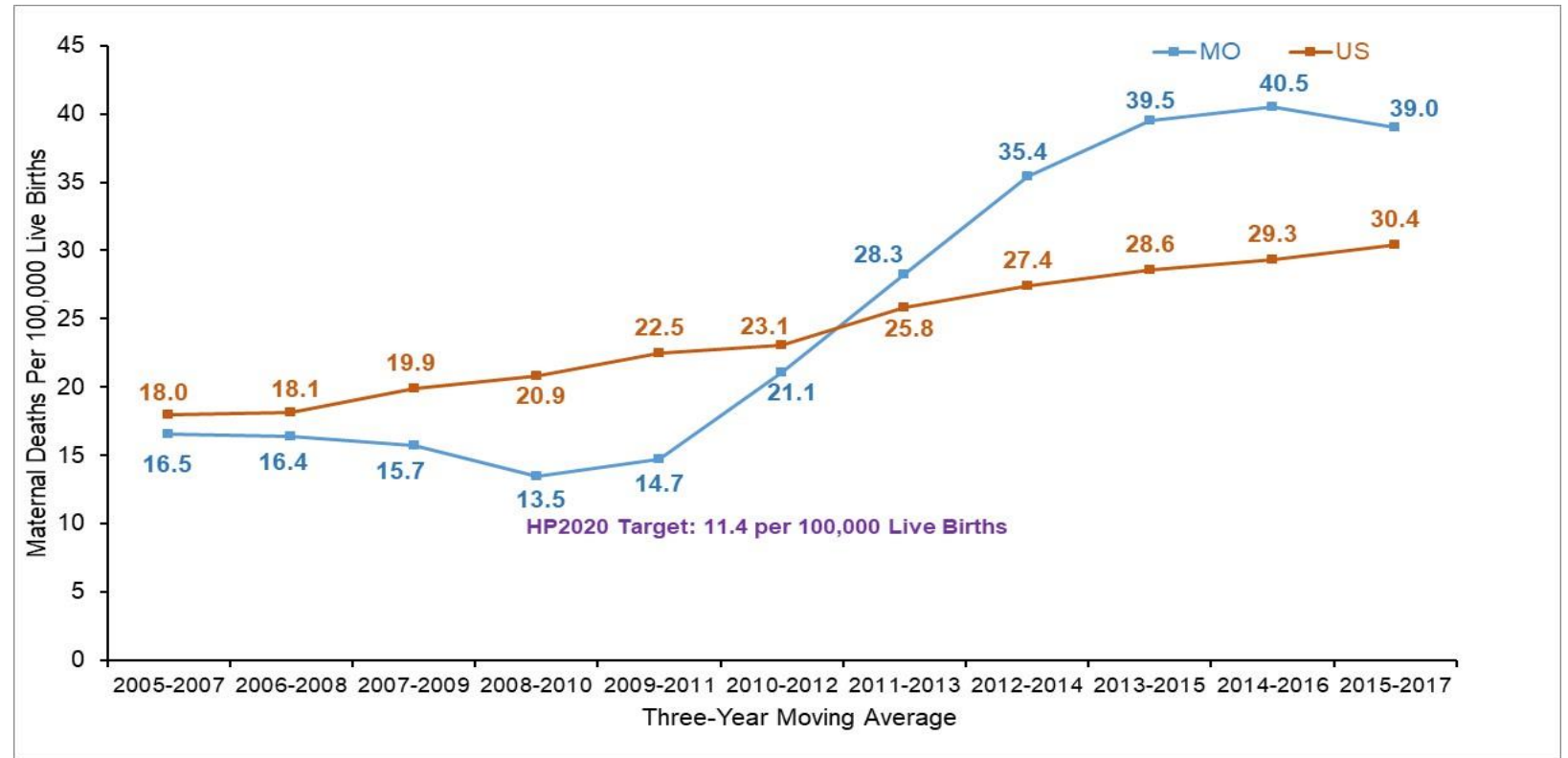
Maternal Health in Missouri

- Missouri's Population – 6 million
 - 84.3% White, 12.6% Black/African American
- 51% Female
 - 84% White, 13% Black/African American
- 34% of women in childbearing age (18-44 years)
 - 82% White, 14% Black/African American

	Missouri		United States	
	# Live Births	% Live Births	# Live Births	% Live Births
White	57,068	77.9%	2,834,713	74.8%
Black or African-American	11,677	15.9%	633,552	16.7%
Other	4,536	6.2%	323,447	8.5%
TOTAL	73,281	100%	3,791,712	100%

How Has the Trend Changed?

Missouri's
maternal
mortality rate:
42nd in 2018
(America's Health
Rankings)

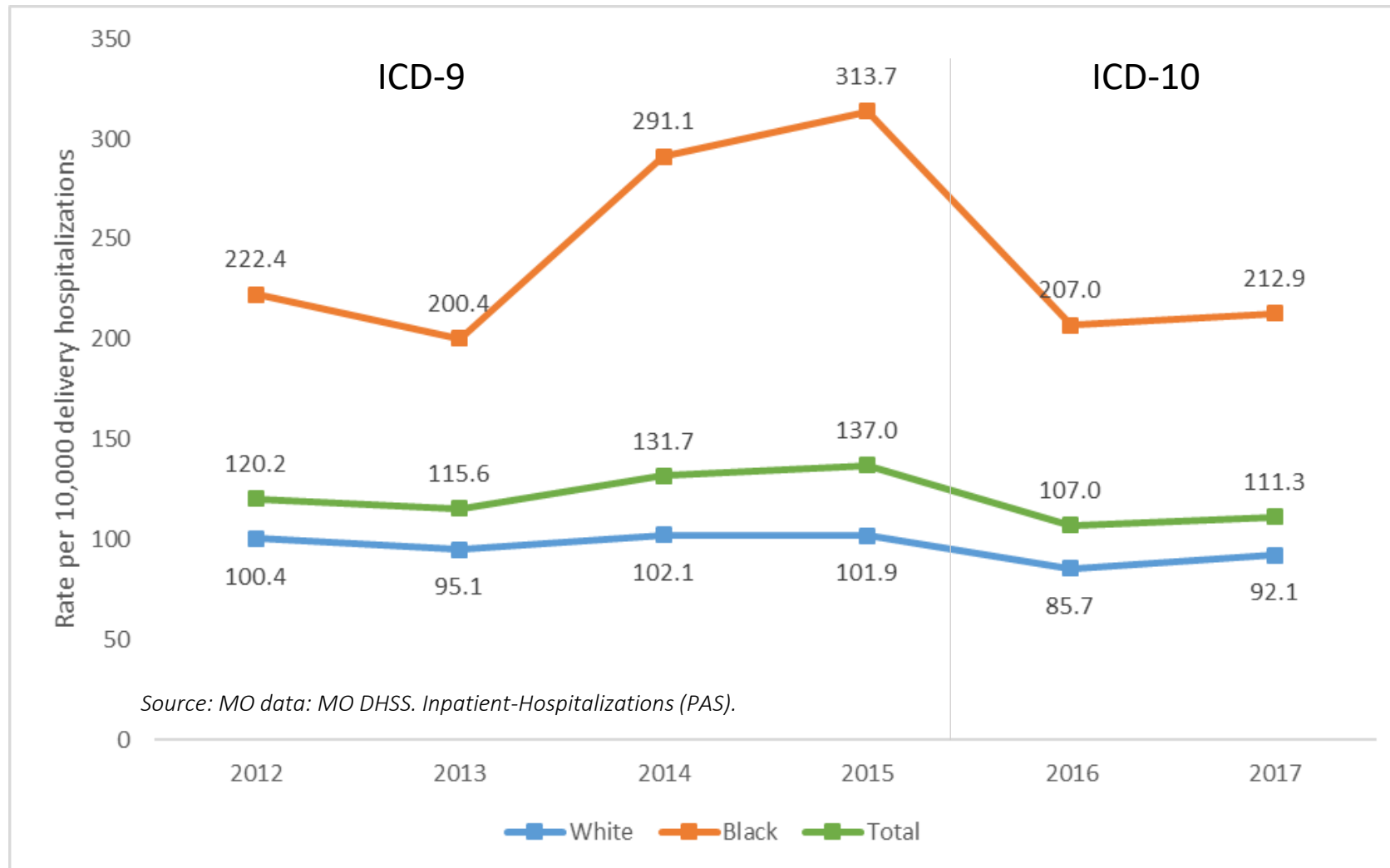


Source: US data - CDC, NCHS. Underlying Cause of Death 1999-2017 on CDC WONDER Online Database, ICD-10 Codes: O00-O99.

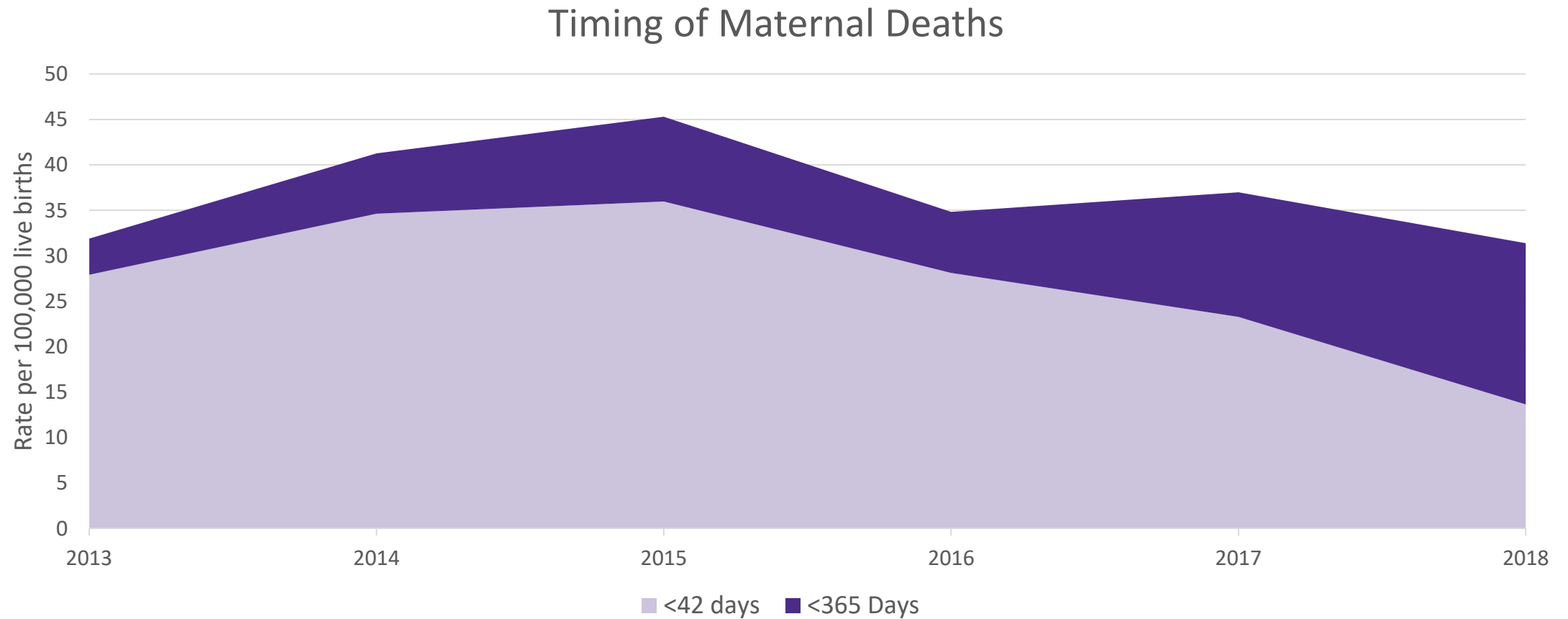
MO Data - MO DHSS Vital Statistics Mortality and Birth files.

Missouri Vital Statistics (MVS) Definition: Death of a mother, whether while pregnant, during delivery, or up to a year after delivery, as a result of complications of pregnancy, childbirth, or puerperium (ICD-10 codes O00-O99).

Who is Being Affected?



When are Deaths Occurring?



Why is this Happening Now?

- Improved “data capture”?
 - 2010: Missouri implements revised death certificate with pregnancy checkbox
- System changes?
 - Access to Care – 5 rural hospital closures in MO since 2010
 - Cost of Care
- Treatment changes?
 - Opioid epidemic
 - Pre-pregnancy risk factors

Certificate of Death

Details/Manner/Injury

32 If Female

If female, select one from list

Verification required

Select

- Not pregnant within the past year
- Pregnant at the time of death
- Not pregnant, but pregnant within 42 days of death
- Not pregnant, but pregnant 43 days to 1 year before death
- Unknown if pregnant within the past year

These 3 initiate a PAMR

Cause of Death

26. Cause of Death - Use a semicolon to separate multiple causes in same textbox

Immediate cause (final disease or condition resulting in death) A

Underlying cause B

Data from the CDC Pregnancy Mortality Surveillance System indicate that pregnancy-related mortality in the United States increased by 20% between 2000 and 2013.

Accuracy Matters!

National Sources of Maternal Mortality Information

	CDC – National Center for Health Statistics (NCHS)	CDC – Pregnancy Mortality Surveillance System (PMSS)	Maternal Mortality Review Committees (MMRC)
Data Source	Death certificates	Death certificates linked to fetal death and birth certificates	Death certificates linked to fetal death and birth certificates, medical records, social service records, informant interviews...
Time Frame	During pregnancy – 42 days	During pregnancy – 365 days	During pregnancy – 365 days
Source of Classification	ICD-10 codes	Medical epidemiologists (PMSS-MM)	Multidisciplinary committees
Terms	Maternal death	Pregnancy associated, (Associated and) Pregnancy related, (Associated but) Not pregnancy related	Pregnancy associated, (Associated and) Pregnancy related, (Associated but) Not pregnancy related
Measure	Maternal Mortality Rate - # of Maternal Deaths per 100,000 live births	Pregnancy Related Mortality Ratio - # of Pregnancy Related Deaths per 100,000 live births	Pregnancy Related Mortality Ratio - # of Pregnancy Related Deaths per 100,000 live births
Purpose	Show national trends and provide a basis for international comparison	Analyze clinical factors associated with deaths, publish information that may lead to prevention strategies	Understand medical and non-medical contributors to deaths, prioritize interventions that effectively reduce maternal deaths

Nicely reviewed in:

- Callaghan, William M. 2012. Overview of maternal mortality in the United States. Seminars in perinatology. 36; 1: 2-6.
- Berg C, et al. (Editors). Strategies to reduce pregnancy-related deaths: from identification and review to action. Atlanta: Centers for Disease Control and Prevention; 2001

DHSS Efforts – Maternal Mortality Prevention

- Building a strong MMRC to understand why women are dying
- MO has had a MMRC since 2011
- Legislation passed in 2019
 - Additional privacy protections for PAMR
 - Restructured board
 - Annual legislative report



Why MMRC's Are Different

- Able to look at fuller context preceding death including life circumstances, quality of/access to care, social determinants of health (SDOH), etc.
 - Death certificates: proximate cause of death; the underlying cause(s) remain unreported
- Enables board to assess preventability
 - NOT JUST MEDICAL preventability, also “upstream”



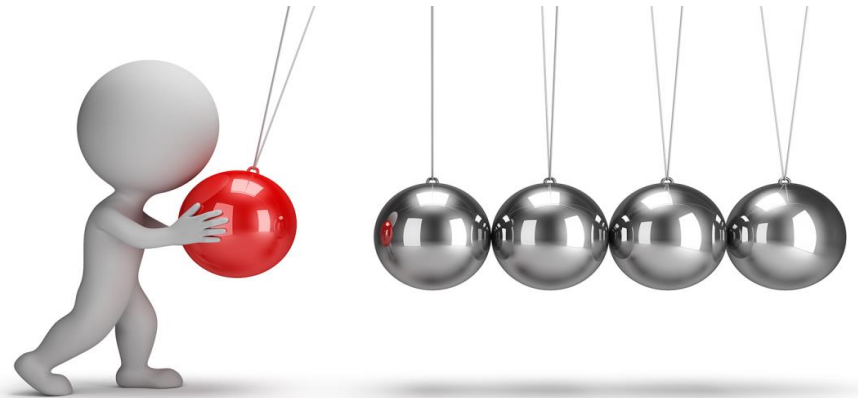
Missouri's MMRC

- MO is well-positioned to lead the way in understanding/preventing maternal deaths
- Pregnancy-Associated Mortality Review (PAMR) Board
 - 18 professionals including diverse geographic composition
 - 4-year staggered terms
 - Chair and Chair-elect
- Supportive Legislation



Enhancing Reviews and Surveillance to Eliminate Maternal Mortality (ERASE-MM)

- ERASE-MM grant: what it does, how it helps
 - Five-year CDC-funded grant. September 2019 through September 2024
 - Identify,
 - Review,
 - Characterize; and,
 - Identify prevention opportunities



Next Steps

- Legislative report will be published by June 30, 2020
- More information on maternal morbidity/mortality
 - Why/how women are dying
 - 'Near misses'
 - Recommendations that may be actionable at many levels
- ERASE MM activities



Statewide Activities to Address Maternal Mortality

- Alliance for Innovation on Maternal Health (AIM)
 - Severe Hypertension in Pregnancy
 - Reduction of Peripartum Racial/Ethnic Disparities
 - Obstetric Care for Women with Opioid Use Disorder (2021)



Statewide Activities to Address Maternal Mortality

- Maternal Child-Learning and Action Network activities (MC-LAN)/Perinatal Quality Collaborative (PQC)
 - Neonatal Abstinence Syndrome (NAS)
- Medicaid waiver for Substance Use Disorder (SUD) treatment
- St. Francis Hospital (Cape Girardeau)
 - RMOMS grant
- Department of Social Services
 - MOM grant
- Actions in your communities
 - How can we help *you*?



The Local Connection



- How can you assist?
 - Actionable recommendations that you can put into action/champion in your communities:
 - Example 1 – Providers should screen all pregnant and postpartum women for mental health disorders and provide adequate follow up.
 - Example 2 – Providers should screen and refer pregnant/postpartum women to substance use treatment.
 - Example 3 – Providers should educate pregnant and postpartum women on seatbelt use.
 - Example 4 – Educate state leaders on the benefits of extending Medicaid coverage for pregnant women to one year postpartum.

Contact Information

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